

# Kinetic HDD

## Data Sheet

### Revolutionizing Cloud Data Storage

- The world's first Ethernet-connected HDD with an open source object API
- Reduces TCO by simplifying cloud and data center storage hardware and software stacks
- Improves performance by eliminating layers of antiquated file system software
- Enables flexible and independent scaling of compute and storage growth
- Supports hyperscale 24x7 environments with up to 800 drives in a 40U rack
- Connects storage directly to existing data center data communications fabric
- State-free key/value object store with provided Kinetic API libraries

### Best-Fit Applications

- Object data storage
- Hyperscale and scale-out storage
- Cloud storage arrays
- Cloud backup storage



| Specifications                                                                | 4TB <sup>1,2</sup>        |
|-------------------------------------------------------------------------------|---------------------------|
| Model Number                                                                  | ST4000NK0001              |
| Interface                                                                     | Dual SGMII Ethernet 1Gb/s |
| <b>Performance</b>                                                            |                           |
| DDR2 Cache, Multisegmented (MB)                                               | 64                        |
| RAM (MB)                                                                      | 512                       |
| I/O Data Transfer Rate (MB/s max)                                             | 60                        |
| Rotational Vibration Tolerance @ 20Hz to 1500Hz, w/RVFF (rad/s <sup>2</sup> ) | 12.5                      |
| Linear Random Vibration @ 10Hz to 500Hz (G <sub>rms</sub> ref)                | 4.9                       |
| <b>Configuration</b>                                                          |                           |
| Heads/Disks                                                                   | 8/4                       |
| Object Size (KB)                                                              | 1024                      |
| Guaranteed Objects per Drive                                                  | 3,906,250                 |
| <b>Reliability/Data Integrity</b>                                             |                           |
| Load/Unload Cycles (25°C, 50% relative humidity)                              | 300,000                   |
| Nonrecoverable Read Errors per Bits Read, Max                                 | 1 per 10E14               |
| Mean Time Between Failures (MTBF) (hours)                                     | 800,000                   |
| Power-On Hours                                                                | 8760 (24x7)               |
| <b>Power Management</b>                                                       |                           |
| Maximum Spin-up Mode (W) (+5V/+12V)                                           | 5.0/19.2                  |
| Average Put/Get Operation Mode (W) (+5V/+12V)                                 | 4.25/3.6                  |
| Voltage Tolerance (including noise)                                           | 5V ± 5%<br>12V ± 10%      |
| <b>Environmental</b>                                                          |                           |
| Operating Temperature (°C)                                                    | 5 to 60                   |
| Nonoperating Temperature (°C)                                                 | –40 to 70                 |
| Relative Humidity, Operating/Nonoperating (%)                                 | 5 to 90/5 to 95           |
| Acoustics (typical/max, bels)                                                 | 2.8/3.0                   |
| <b>Physical</b>                                                               |                           |
| Height (mm/in) <sup>3</sup>                                                   | 26.1/1.028                |
| Width (mm/in) <sup>3</sup>                                                    | 101.85/4.010              |
| Depth (mm/in) <sup>3</sup>                                                    | 147.00/5.787              |
| Weight (g/lb)                                                                 | 608/1.34                  |
| Carton Unit Quantity                                                          | 20                        |
| Cartons per Pallet                                                            | 40                        |
| Cartons per Layer                                                             | 8                         |
| <b>Special Features</b>                                                       |                           |
| Seagate Instant Secure Erase                                                  | Yes                       |
| Simple GetLog Command Usage                                                   | Yes                       |
| State-Free Key/Value Object Store With Remote Procedure Calls (RPC)           | Yes                       |
| Worldwide Name (WWN) Capability                                               | Yes                       |
| Limited Warranty (years)                                                      | 3                         |

<sup>1</sup> One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.

<sup>2</sup> Seagate recommends validating your configuration with your HBA manufacturer to ensure full 4TB capacity capabilities.

<sup>3</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8301) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8323.



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Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000  
Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888  
Seagate Technology SAS 16–18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

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